What is claimed is:

1. An optical disk device for recording or reproducing information on an optical disk with a recording layer formed on a transparent substrate, comprising:

a condenser for condensing light for recording or reproducing information on said recording layer via a transparent substrate of the optical disk;

a signal detector for detecting focus error signals and focus sum signals from return light reflecting from said recording layer; and

a thickness error detector for detecting thickness errors of said transparent substrate with reference to a specified value, based on the characteristics of said focus error signals.

2. An optical disk device for recording or reproducing information on an optical disk with a recording layer formed on a transparent substrate, comprising:

a condenser for condensing light for recording or reproducing information on said recording layer via a transparent substrate of the optical disk;

a signal detector for detecting focus error signals and focus sum signals from return light reflecting from said recording layer; and

a thickness error detector for detecting thickness errors of said transparent substrate with reference to a specified value, based on the peak position of said focus sum signals.

3. The optical disk device described in Claim 1,

wherein

said signal detector detects said focus error signals and said focus sum signals by means of the knife-edge method; and

said thickness error detector detects the thickness error of said transparent substrate and its symbol based on differences in the absolute value between the positive peak and negative peak of said focus error signals.

4. The optical disk device described in Claim 2, wherein

said signal detector detects said focus error signals and said focus sum signals by means of the knife-edge method; and

said thickness error detector detects the thickness error of said transparent substrate or its symbol based on differences between the peak point of said focus sum signal and the zero point of said focus error signal in their focus positions.

5. The optical disk device described in Claim 1, wherein

said signal detector detects said focus error signals and said focus sum signals by means of the spot size method; and

said thickness error detector detects the thickness error of said transparent substrate or its symbol based on differences in the absolute value between the positive peak and negative peak of said focus error signals.

6. The optical disk device described in Claim 2,

wherein

said signal detector detects said focus error signals and said focus sum signals by means of the spot size method; and

said thickness error detector detects the thickness error of said transparent substrate or its symbol based on differences between the peak point of said focus sum signal and the zero point of said focus error signal in their focus positions.

7. The optical disk device described in Claim 1, wherein

said signal detector detects said focus error signals and said focus sum signals by means of the astigmatism method; and

said thickness error detector detects the thickness error of said transparent substrate based on focus pull-in range which is the distance between the positive peak and negative peak of said focus error signals.

8. The optical disk device described in Claim 7, wherein

said thickness error detector detects the thickness error symbols of said transparent substrate and its symbol by means of detecting absolute amount of the thickness error of said transparent substrate from said focus pull-in range and compares waveforms of the positive peak vicinity with waveforms of the negative peak vicinity of said focus error signals.

9. The optical disk device described in Claim 2,

wherein

said signal detector detects said focus error signals and said focus sum signals by means of the astigmatism method; and

said thickness error detector detects the thickness error of said transparent substrate and its symbol based on differences between the peak point of said focus sum signal and the zero point of said focus error signal.

10. The optical disk device described in Claim 1, further comprising:

a spherical aberration compensator for compensating for spherical aberration caused by the thickness error of said transparent substrate placed on said signal detector's optical path.

11. The optical disk device described in Claim 2, further comprising:

a spherical aberration compensator for compensating for spherical aberration caused by the thickness error of said transparent substrate placed on said signal detector's optical path.

12. The optical disk device described in Claim 10, further comprising:

a controller for calculating a compensating factor for said spherical aberration at each radial position of said optical disk based on thickness errors of said transparent substrate detected at various radial positions on the optical disk prior to recording or reproducing information, and causing said spherical aberration compensator to

compensate for said spherical aberration based on said compensation factors during recording or reproduction of said optical disk.

13. The optical disk device described in Claim 11, further comprising:

a controller for calculating a compensating factor for said spherical aberration at each radial position of said optical disk based on thickness errors of said transparent substrate detected at various radial positions on the optical disk prior to recording or reproducing information, and causing said spherical aberration compensator to compensate for said spherical aberration based on said compensation factors during recording or reproduction of said optical disk.